

Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife

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Hessel's Hairstreak

Callophrys hesseli

State Status: **Special Concern**

Federal Status: None

Description: Hessel's Hairstreak is a tailed lycaenid butterfly with a wingspan of 26-28 mm. On the underside, the wings have a reddish-brown ground color overlaid with bright, bluish-green scales and white spot lines; the costal white spot on the forewing is set outward. The brown ground color is not overlaid with green proximal to the white spot lines. The larva is bluish-green with dorsal and lateral white bars on each segment, rendering it cryptic on the host plant; the final instar is about 16 mm in length (Rawson et al. 1951).

Habitat: Hessel's Hairstreak exclusively inhabits Atlantic white cedar (*Chamaecyparis thyoides*) swamps and bogs.

Life History: Adult butterflies fly from the second week of May through the second week of June; the peak flight is usually in late May. Eggs are laid on branch tips of Atlantic white cedar. Larvae feed on new growth of the host plant for about a month, pupating in July. Pupae diapause from July to the following May, probably under loose bark on the trunk of the host plant. Hessel's Hairstreaks are most frequently observed while nectaring, often in the morning or late afternoon on warm, sunny days in late May. Though they usually remain within the cedar swamp and nectar at highbush blueberry (*Vaccinium corymbosum*) or chokeberry (*Aronia*), late in the flight period butterflies may disperse out of the habitat into nearby fields, yards, and roadsides to nectar at other flowers. Usually no more than one to a few Hessel's Hairstreaks are encountered, though dozens of individuals may be seen in exceptional circumstances (Beck & Garnett 1983).

Range: Hessel's Hairstreak is distributed in scattered colonies along the Atlantic coastal plain from southern Maine to the Florida panhandle and southeastern Alabama. The greatest density of colonies is found in southern New Jersey, southeastern Massachusetts, and Rhode Island. In Massachusetts, most colonies are concentrated in southern Worcester, Norfolk, Bristol, and Plymouth Counties.



Photo by M.W. Nelson

Adult Flight Period in Massachusetts

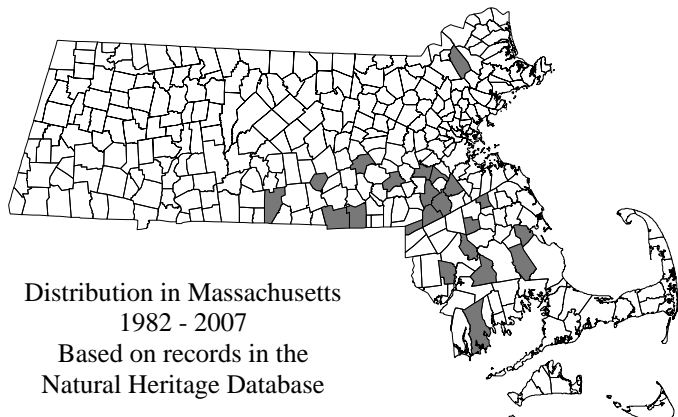
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Threats

- Habitat loss
- Suppression of disturbance (fire, flooding), or excessive deer browsing, preventing regeneration of Atlantic white cedar
- Hydrologic alteration
- Invasion by exotic plants
- Introduced generalist parasitoids
- Insecticide spraying

References

- Beck, A.F. and W.J. Garnett. 1983. Distribution and notes on the Great Dismal Swamp population of *Mitoura hesseli* Rawson and Ziegler (Lycaenidae). *Journal of the Lepidopterists' Society* 37(4): 289-300.
- Rawson, G.W., J.B. Ziegler, and S.A. Hessel. 1951. The immature stages of *Mitoura hesseli* Rawson and Ziegler (Lepidoptera, Lycaenidae). *Bulletin of the Brooklyn Entomological Society* 46(5): 123-130.



Distribution in Massachusetts
1982 - 2007

Based on records in the
Natural Heritage Database

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M.W. Nelson